

WELCOME TO

TILLAMOOKK

LAND OF MANY WATERS

32,000 Cows



100" RAIN

MEAD SINCE 1988



MEAD 15 years – Methane Energy Agricultural Development

\$1.2 Million in EPA – Earmarked Ag STAR Funds

RFP – Failed to attract Developer

“Farms refusal to accept Tipping Fees”

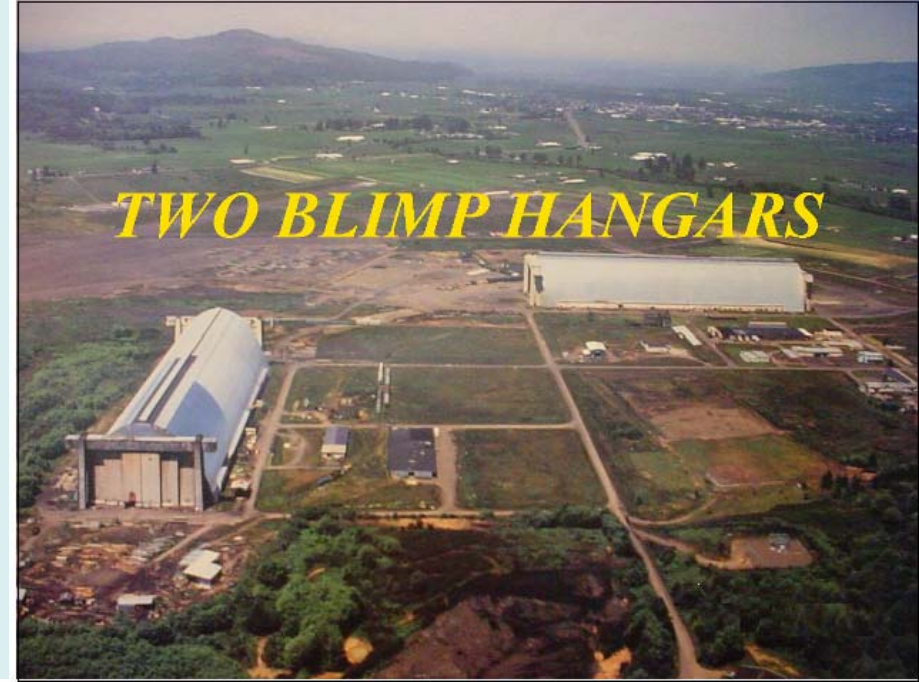
NO DIGESTER

2000 & 2001

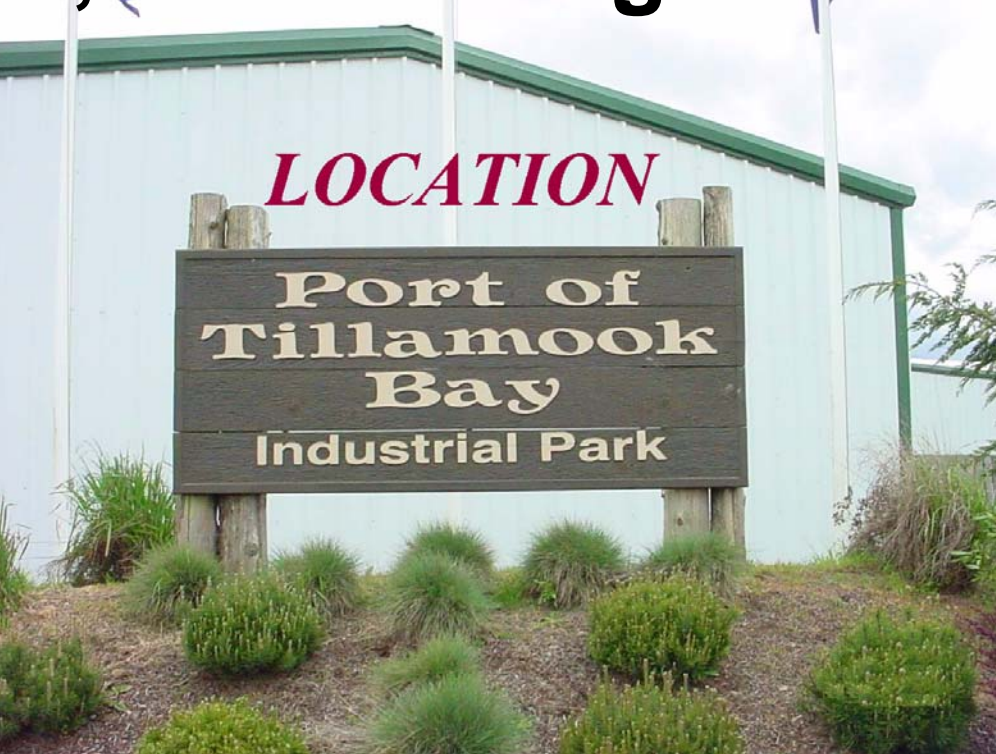
DOE EARMARK \$1.7 Million

To Build

4,000 Cow Digester



TWO BLIMP HANGARS



LOCATION

**Port of
Tillamook
Bay
Industrial Park**



NOW - ONE

HANGAR "A" SLAB



Construction August 2002 – November 2003



An aerial photograph of a large industrial facility. The main building has a long, low profile with a corrugated metal roof. To the right of the building is a long, narrow concrete structure, possibly a canal or a large storage tank, with a series of vertical supports. The ground is a mix of dirt, gravel, and some green grass. A yellow pickup truck is parked near the building. The text "2000 PHASE 1 COMPLETE" and "NOVEMBER 2003" is overlaid in large, bold, yellow letters. The date "27 10 2003" is overlaid in red letters in the bottom right corner.

2000 PHASE 1 COMPLETE
NOVEMBER 2003

27 10 2003

November 03, 2003 Fully Operational

- 30 months of operations
- 3 Million kilowatt hours of Power
- 36 Million Gallons Raw Manure Processed
- 99% pathogen and disease free
- 72,000 cubic yds. Of Compost Fiber
- 75 Million cubic ft. of Bio Gas 27,000 Tons of CO₂ - Destroyed



2000-01 PROFORMA

- 5 Million kwh @ .06/kwh= \$300,000
- 5 Million Gtags @.01/kwh= \$50,000
- 22,000cuyds fiber @ \$3= \$66,000
- Total Revenues \$416,000
- Transportation 2 trucks <\$185,000>
- Labor 2+ benefits <\$115,000>
- Maintenance & Supplies <\$100,000>
- Profits \$16,000

No Tipping Fees Required

PROBLEMS



ENGINES



TRUCKS



WATER IN MANURE



MOISTURE IN FIBER

2003-04 REALITY

• 4 Million kwh @ .042=	\$168,000
• 4 Million Gtag @ .005=	\$20,000
• 35,000 cuyds @ \$3=	\$105,000
• Total Revenue	\$293,000
• Transportation 2 Trucks	<\$260,000>
• Labor 1-1/2 + Benefits	<\$75,000>
• Maintenance & Supplies	<\$50,000>
• Debt Service	<\$30,000>
• Operating Loss/year	<\$122,000>



SOLUTIONS

2003 - 2004

- Tipping Fees
- Transport Improvement
- Farm Improvement
- Equipment Improvement
- Marketing Dry Fiber
- Better Power Rate 4.2¢ - 6.0¢
- CO2 Credits - \$2. +

TIPPING FEES

- Easy Handling – (From 12% - 3%)
- Additional Storage – (+ 1 million gallons)
- Grows Grass like Crazy – (2-3 X's faster)
- Farmers pay 80% Transportation Costs
or 1 cent / gallon or \$5 per cow per month



Trucks



and



Tank Cars



FARM IMPROVEMENTS



Small Piping



Poor Roadways



Rain in Manure



Small Pumps



SCREW PRESS



GAS SYSTEM



ENGINES



PUMP



STIRRER

*Interim Report to:
The Port of Tillamook Bay*

*Compost, Fiber and Digester Liquid Fertilizer
Product Development and Marketing Plan*



R. Alexander Associates, Inc.
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Ex, North Carolina 27502
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919 367-8351 – fax
raassoc@earthlink.net – e-mail
www.alexassoc.net – website

*'Specializing in market research
and development for organic
recycled products'*

*Celebrating 20 years of service
to the composting and organics
recycling industry*

Ron Alexander Associates, Inc.



Day 14
Marigold
Control

Day 14
Marigold
1:1

Day 14
Marigold
1:4



Day 13
Grass Mix
Scratch
Product

Day 13
Grass Mix
No Scratch
Product

PRODUCT MARKETING

- *PEAT SUBSTITUTE*
- *FERTILIZER PELLETS*
- *BEDDING*
- *LIQUID FERTILIZER*
- *COMPOST BLEND*



DRUM DRYER



50 HP Gas Turbine Produces 900° exhaust heat



70% moisture → 20%



1 2 3

CELL 3 – Produce Gas for Gas Turbine

27 10 2003



Drum Dryer

will produce
the **3**
following products



NEW PERFORMA

BASED ON CELL 3 AND DRUM DRYER FULLY OPERATIONAL

REVENUES

▪ Power	\$ 6,000
▪ Fiber	15,000
▪ Tip Fees	15,000
▪ Misc.	<u>1,000</u>

\$37,000

COSTS

▪ Transportation	\$ 20,000
▪ Labor	10,000
▪ Debt	2,000
▪ Misc.	<u>5,000</u>

\$37,000

GOAL TO BREAK EVEN

BREAK EVEN

Based on

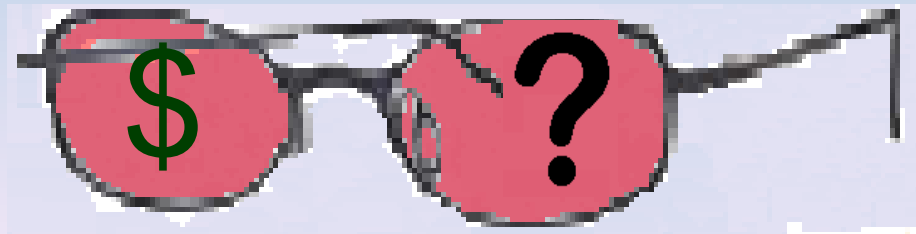
80 yds. dry / day @

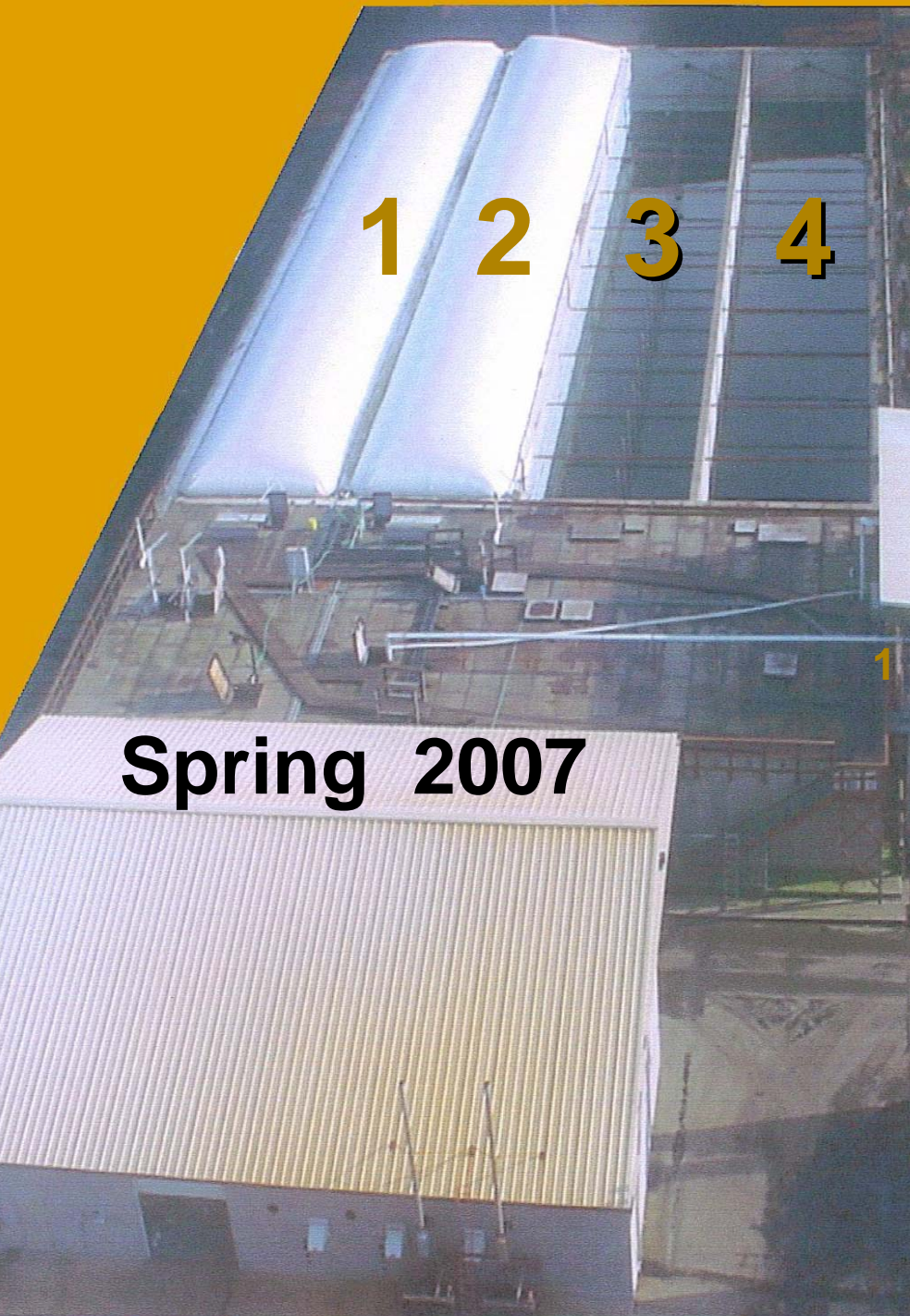
\$7.00/yd. Cow Bedding



MARKET VALUES

- COMPOST BLENDS \$ 15/YD
- FIBER PEAT 30/YD
- PELLETS 100/YD





CELL 4

3rd

ENGINE SET

DIGESTER FUTURE

- Dairy Benefit has been proven
- Dairy Industry now understands the process and costs
- Environmental Community is excited with the results
- Additional Funding is needed to lower Capital costs and standardize the operational process